ABSTRACT

A digital camera that includes, among other things, a processor having a memory and a substrate having at least one pixel disposed thereon for absorbing light from an object. The pixel is electrically coupled to the processor for storing a digital image of the object in the memory of the processor. Also included in the digital camera is an electromechanical shutter mechanism that is moveably associated with the pixel. The electromechanical shutter system has a first position and a second position. The positions are selected according to commands from the processor of the digital camera. The first position exposes the pixel to the light from the object and the second position prevents exposure of the at least one pixel to the light. Various aspects of the present invention may also be found in an image capturing device that includes an adjustable aperture that allows light to pass through when opened and that prevents light from passing through when closed. A substrate is included in the image capturing device that has a plurality of pixels disposed thereon for capturing the light that passes through the adjustable aperture. Also included is a shutter mechanism that is used to control the amount of the light that the plurality of pixels receive when the adjustable aperture is opened. The shutter mechanism simultaneously adjusts the amount of light that each of the plurality of pixels receives. A processing device is included to store the data that is captured in each of the plurality of pixels such that the image capturing device is able to generate an image that is created by the light that passes through the adjustable aperture.